

**Department of
Fish and Game**

DIVISION OF COMMERCIAL FISHERIES
Westward Region Office

351 Research Court
Kodiak, Alaska 99615
Main: 907.486.1825
Fax: 907.486.1841



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

MEMORANDUM

TO: Nick Sagalkin
Westward Region Supervisor
Commercial Fisheries Division
Region IV - Kodiak

DATE: October 23, 2017

PHONE: (907) 486-1806
FAX: (907) 486-1841

THRU: Jeff Wadle
Regional Finfish Management Biologist
Commercial Fisheries Division
Region IV – Kodiak

FROM: Dawn Wilburn
Chignik Finfish Management Biologist
Commercial Fisheries Division
Region IV – Kodiak

SUBJECT: 2017 Chignik Salmon
Season Summary

cc:

Cotten
Kelley
Bowers
Sagalkin
Wadle
Jackson
Fox
Murphy
Hutter
Habicht
Sands
Spalinger, G
Lipka
Johnson, R.
Foster
Anderson
Polum

Bosch
Witteveen
Dorner, A.
Lipka
Finkle
Polum
Wattum
Stumpf
Shedd
Fair
Dann
Schrof
Fall
Shriver
Fuerst
Schaberg
Hutchinson-Scarborough

City of Chignik Lagoon
City of Chignik Bay
Native Village of Perryville
Lake and Peninsula Borough
Chignik Advisory Committee
Sand Point Advisory Committee
Kodiak Advisory Committee
USFWS-ANC-Gerken
Chignik Regional Aquaculture
Association
USFWS-OSM-Pappas
Trident Seafoods
International Seafoods of Alaska
Alaska Peninsula Fishermens
Cooperative
City of Chignik Lake
Fisheries Research Institute-UW
Concerned Area M Fisherman
United Fisherman of Alaska

The following is a brief overview of the 2017 Chignik Management Area (CMA; Figure 1) commercial salmon season.

The Chignik River watershed supports two genetically distinct sockeye salmon runs which traditionally provide the majority of directed harvest opportunities within the CMA. In 2017, the early- and late-run Chignik River sockeye salmon combined total run was well below the recent 10-year average. The first commercial fishing period in the CMA began on June 10 and the final fishing period closed on August 31. A total of 68 permits made deliveries in 2017 (including the department's test fishery permit).

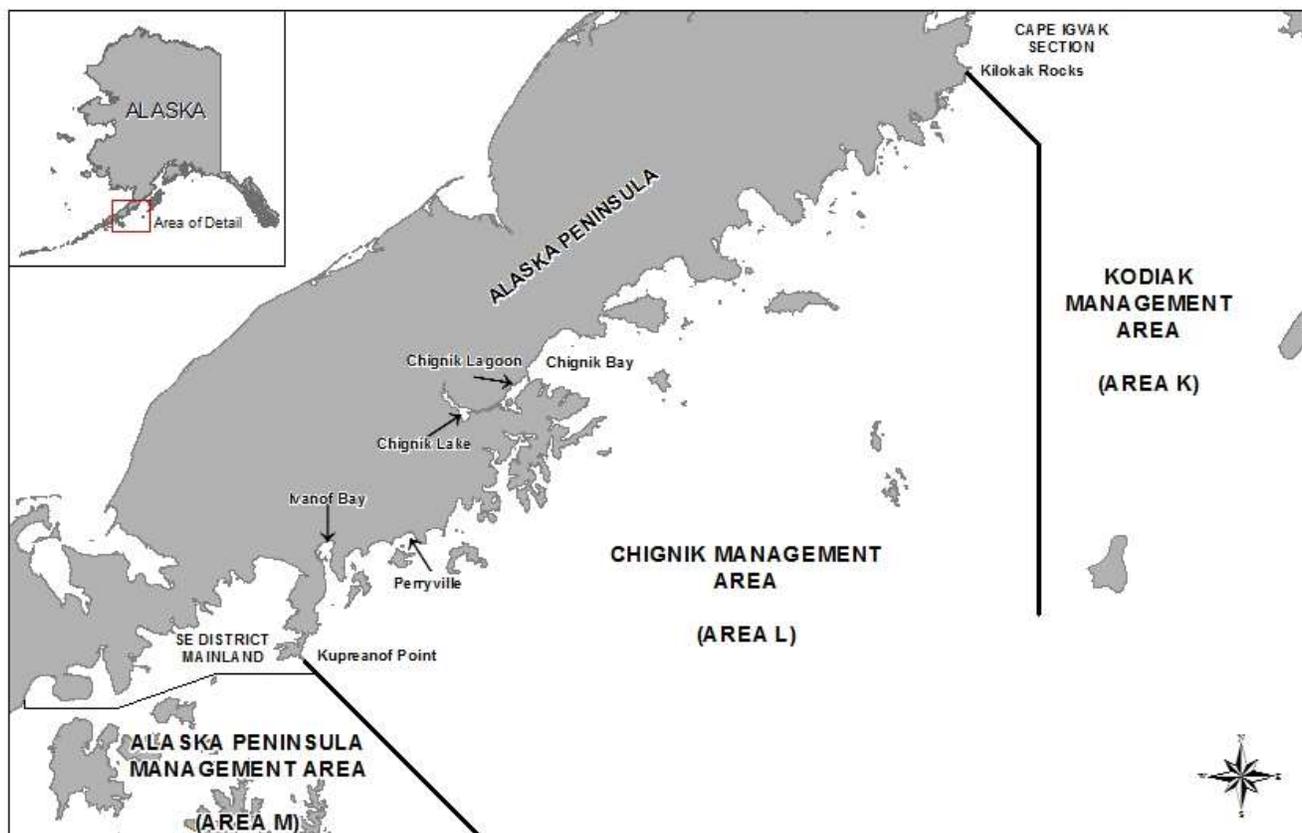


Figure 1.- Map of the Alaska Peninsula illustrating the relative locations of the Chignik, Kodiak, and Alaska Peninsula Management Area.

ESCAPEMENT

Escapement through the Chignik River weir was monitored using underwater digital video equipment from June 2 through September 6. Two underwater gates in the weir were open to provide uninterrupted escapement. Fish passing the weir were counted, by species, for the first 10 minutes of each hour. The

counts were expanded to obtain hourly escapement estimates, and then summed to provide an estimate of daily fish passage. A digital video archive was kept of each 10-minute counting period.

Two DIDSON (Dual Identification Sonar) acoustic units were also installed in the Chignik River simultaneous to weir operations from August 10 through September 6. The numbers of fish passing upstream of the DIDSONs were counted for the first 10 minutes of each hour. The counts were then expanded to obtain hourly escapement estimates. Species apportionment was determined by fishing with a seine net at least every other day. The results of the fishing samples will be applied to the DIDSON escapement estimates post season. This project is funded by an Alaska Sustainable Salmon Fund (AKSSF) grant with the purpose of providing a direct comparison between the two enumeration methods in order to develop a correction factor between the two methods. This was the second year of the three year AKSSF grant. At this time, the department has decided not to include DIDSON escapement estimates in final escapement numbers until all data from the entire three year project can be analyzed. Therefore, escapement numbers in this document include only weir counts as post season analysis unless otherwise noted.

Aerial surveys were flown throughout the season to monitor escapement into other CMA streams. Peak aerial survey counts, by index stream and species, were summed and compared to available escapement goals established by Schaberg et al. (2015). Pink and chum salmon escapements were measured against established area-wide sustainable escapement goals (SEG).

Chinook Salmon

The Chignik River is the only major Chinook salmon-producing stream within the CMA and one of the largest Chinook salmon streams on the South Alaska Peninsula. The biological escapement goal (BEG) for Chinook salmon into the Chignik River watershed is 1,300–2,700 fish (Schaberg et al. 2015). The 2017 Chignik River Chinook salmon escapement, above the weir, of 1,137 fish (Table 1) did not meet the escapement goal and was below recent averages. State subsistence and sport fishery harvest of Chinook salmon will not be known until permits and questionnaires are returned and tabulated by the spring of 2018.

Sockeye Salmon

Sockeye salmon escapement to the Chignik River is managed based on separate escapement objectives for both early- and late-run sockeye salmon. The early-run SEG of 350,000–450,000 sockeye salmon was exceeded with an estimated escapement of 453,257 fish (Table 1). The early-run sockeye salmon escapement was similar to above the 5-year and 10-year average escapements.

The Chignik River also has an inriver run goal (IRRG) of 75,000 sockeye salmon (25,000 in August and 50,000 in September) to provide for additional freshwater subsistence fishing opportunity. The IRRG is incorporated into the late-run SEG of 275,000–400,000 sockeye salmon. In 2017, the late-run SEG was met with an estimated total escapement of 339,303 sockeye salmon (Table 1). Of these fish, an estimated 17,529 late-run sockeye salmon were estimated for the time period of September 7–30 using a time series analysis. Sockeye salmon escapement in August was estimated at 111,615 fish, meeting the minimum escapement requirements for the month (50,000 fish), as well as the August IRRG component of 25,000 fish. Approximately 25,995 sockeye salmon escaped during September 1–30 and were included in the total late-run escapement estimate. September escapement did not meet the September

IRRG component of 50,000 fish. The total late-run estimated escapement was similar to the 10-year average escapement and below the 5-year average escapement (Table 1).

Coho Salmon

Coho salmon begin to enter CMA drainages in mid-August and continue through November. The coho salmon run is generally building when the weir is removed. The 2017 Chignik River coho salmon escapement through the weir through September 6 was 33,270 fish which was above the most recent 5- and 10-year average escapement estimates (Table 1).

Aerial surveys of coho salmon in the Chignik Management Area are often sporadic and conducted prior to the peak of the runs due to departure of management staff in the fall. In 2017, aerial surveys were not flown because of inclement weather.

Pink Salmon

An estimated 123,531 pink salmon passed the Chignik River weir in 2017, which was well above the previous 5- and 10-year average pink salmon escapements (Table 1). Pink salmon escapements into other CMA streams were estimated via aerial surveys. A new odd-year pink salmon SEG was adopted at the 2016 BOF meeting of 260,000–450,000 pink salmon for all districts combined and is based on 8 index streams within the districts. In 2017, pink salmon peak estimated escapement was very strong in the CMA and exceeded the escapement goal. Pink salmon estimated total peak escapement was 586,000 fish for all index streams.

Chum Salmon

The 2017 Chignik River chum salmon escapement was 615 fish, which was well above average for the Chignik River (Table 1). Chum salmon escapements to other CMA streams were estimated via aerial surveys. A new chum salmon SEG was adopted at the 2016 BOF meeting of 45,000–110,000 fish based on escapement into 6 index streams within the districts (Schaberg et al. 2015). The 2017 estimated total peak chum salmon escapement for all index streams of 96,900 fish, was within the escapement goal range.

Table 1.- Estimated Chinook, sockeye, coho, pink, and chum salmon, and Dolly Varden escapement to the Chignik River, 2007 to 2017.

Year	Escapement						
	Chinook ^a	Sockeye		Coho	Pink	Chum	Dolly Varden
		Early-run	Late-run ^b				
2007	2,000	361,091	293,883	10,299	20,464	118	6,993
2008	1,730	377,579	328,479	13,958	22,341	124	14,776
2009	1,680	391,476	328,586	7,670	12,873	109	8,618
2010	3,679	432,535	310,634	5,152	3,670	95	17,578
2011	2,728	488,930	264,887	5,293	16,298	145	19,225
2012	1,449	353,441	358,948	2,663	2,849	73	18,032
2013	1,253	386,782	369,319	16,783	7,231	72	17,230
2014	2,895	360,381	291,228	15,572	3,171	58	44,899
2015 ^c	2,054	534,088	589,810	60,209	4,269	54	16,346
2016	1,843	418,290	337,698	14,187	486	114	24,625
2017	1,137	453,257	339,303	33,270	123,531	615	7,664
Averages							
2007-16	2,131	410,459	347,347	15,179	9,365	96	18,832
2012-16	1,899	410,596	389,401	21,883	3,601	74	24,226

^a No escapement adjustments were made for Chinook salmon that spawn below the weir, or those removed by the sport and subsistence fisheries above the weir.

^b Late-run sockeye salmon totals include a post-weir escapement estimate using a time series analysis.

^c Due to the early removal of the weir in 2015 (August 20), the late-run post weir escapement reported includes DIDSON estimates from August 20-September 23.

COMMERCIAL FISHERY

The CMA was open to commercial salmon fishing for approximately 54 days during the 2017 commercial salmon season. A total of 68 permit holders (including the department's test fishery permit) made a total of 2,408 landings (Table 2).

In June, commercial salmon fishing is based on the strength of the Chignik River early run sockeye salmon. The first commercial fishing period occurred in the Chignik Bay, Central and Eastern districts on June 10. Throughout June to mid-July fishing periods ranged from 2 days to a week interspersed by closures ranging from a few days to a week. Commercial fishery openers were based on escapement monitored at the weir, with extensions occurring based on escapement and commercial fishery performance. Closures between fishing periods allowed for additional escapement into the river to achieve escapement goals.

In 2017, genetic samples were once again taken at the weir to determine the proportion of early to late run fish during the peak of the overlap period (late-June to mid-July). Results after the first four set of samples (June 25, July 1, July 7 and July 13) indicated that normal run transition timing from early- to late-run fish was occurring. The estimated 50/50 date of early- to late-run fish was approximately July 10–11. Based on this information, management of the Chignik river sockeye salmon runs switched to be based on the strength of the late run. Escapement levels at the time showed that the early run was within escapement goals while the late run was well below interim escapement objectives. As a result,

commercial salmon fishing targeting sockeye salmon was closed from July 7 through July 15. After several days of good escapement, the late run was within interim escapement objectives and a short commercial fishing period for the entire CMA occurred beginning July 16. The fifth set of genetic samples taken on July 18 and sixth set on July 23, however, showed that the proportion of early run fish was much higher than indicated in the fourth sample and as a result, the fishery targeting sockeye salmon was once again closed as escapement tracked lower end goals.

There were several fishing periods in mid- to late-July (July 9–10, 21–22 and 29–30) in specific inner bays of the Chignik Management Area to target the early pink and chum salmon returning to local streams. Each of the inner bays fishing periods was 48 hours in length. After August 1, with the exception of two short closures, the majority of the CMA was open to commercial salmon fishing. The Eastern District was closed until August 10 due to low water in streams preventing pink and chum salmon escapement. In September, sockeye salmon escapement lagged behind the necessary number of fish required to meet the month's IRRG component for the Chignik River and therefore, the fishery remained closed.

Table 2.- Total commercial salmon harvests, including home pack, and department test fishery from the Chignik Management Area by species and year, 2007 through 2017.

Year	Permits Making Deliveries ^a	Landings	Chignik Management Area Harvest					Total
			Chinook	Sockeye	Coho	Pink	Chum	
2007	56	2,101	1,773	834,547	73,277	2,019,748	78,553	3,007,898
2008	55	2,217	970	687,270	161,536	2,389,958	209,325	3,449,059
2009	56	2,172	3,319	1,198,105	110,373	1,408,339	256,425	2,976,561
2010	66	2,532	10,380	1,379,785	159,198	489,781	581,329	2,620,473
2011	65	2,617	6,586	2,497,004	76,792	905,166	269,503	3,755,051
2012	70	2,915	3,687	1,800,121	33,316	137,706	171,112	2,145,942
2013	77	3,153	2,959	2,396,645	32,258	871,503	154,425	3,457,790
2014	71	1,525	8,846	620,339	132,459	352,115	55,152	1,168,911
2015	72	2,276	9,204	1,552,495	82,054	1,978,211	101,017	3,722,981
2016	70	2,554	20,719	1,394,091	94,397	140,913	118,435	1,768,555
2017	68	2,408	3,946	897,489	226,829	7,077,924	609,236	8,815,424
Averages ^b								
2007-16	66	2,406	6,844	1,436,040	95,566	1,436,593	199,528	2,807,322
2012-16	72	2,485	9,083	1,552,738	74,897	1,424,857	120,028	2,452,836

^a Includes ADF&G's test fishery permit.

^b Pink salmon averages include odd years only.

Harvest

Chinook Salmon

A total of 3,946 Chinook salmon were commercially harvested in 2017, which was well above recent average harvests (Table 2). Due to poor escapement, Chinook salmon greater than 28 inches were not allowed to be retained in the commercial salmon fishery beginning July 16 in the Chignik Bay District and beginning August 1 in the Central District. The majority of the 2017 CMA Chinook salmon harvest occurred in the Central and Western districts (Table 3).

Sockeye Salmon

A total of 897,489 sockeye salmon were commercially harvested in the CMA during 2017, which was well below the most recent 5-year and 10-year average harvest (Table 2). The largest harvest of sockeye salmon by district in 2017 came from the Chignik Bay District (Table 3).

In 2017, the Southeastern District Mainland (SEDM) in the Alaska Peninsula Management Area (Area M) opened to commercial salmon fishing on June 13 and the Cape Igvak Section in the Kodiak Management Area (Area K) opened on June 14. A total of 54,662 sockeye salmon (43,730 considered Chignik-bound) were harvested in SEDM during the allocation period through July 25. Cape Igvak fisherman harvested 131,223 sockeye salmon (118,101 considered Chignik-bound) during the allocation period.

Coho Salmon

A total of 226,829 coho salmon were commercially harvested in 2017, which was well above the recent 10-year average harvests (Table 2). The majority of the coho salmon harvest in 2017 took place in the Western and Perryville districts (Table 3).

Pink Salmon

A total of 7,077,924 pink salmon were commercially harvested in the CMA in 2017 (Table 2). The 2017 total pink salmon harvest was nearly 5 times larger than the recent odd-year average CMA pink salmon harvest (Table 2). The majority of the pink salmon harvest occurred in the Perryville and Western districts (Table 3).

Chum Salmon

A total of 609,236 chum salmon were commercially harvested in 2017, which was also well above the 5-year and 10-year average chum salmon harvests (Table 2). The majority of the chum salmon harvest in 2017 took place in the Eastern and Western districts (Table 3).

Table 3.- Chignik Management Area commercial salmon harvest, excluding home pack, and department test fishery, by district, 2017.

District	Chinook		Sockeye		Coho		Pink		Chum	
	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds	Number	Pounds
Chignik Bay	410	5,344	348,576	2,222,804	5,488	35,724	432,714	1,543,271	16,813	115,975
Central	1,124	12,882	180,039	1,152,197	11,527	73,631	728,169	2,767,038	102,373	794,658
Eastern	534	6,089	122,798	714,342	1,626	10,620	574,879	2,203,861	141,341	1,129,778
Western	1,594	10,642	150,651	885,523	164,264	1,141,201	2,917,110	10,567,783	265,042	1,992,279
Perryville	246	1,647	91,959	503,613	43,490	297,836	2,410,945	8,171,913	83,272	608,863
Total	3,908	36,604	894,023	5,478,479	226,395	1,559,012	7,063,817	25,253,866	608,841	4,641,553

Economic Value

The exvessel value of the 2017 CMA commercial salmon fishery was about \$15.8 million, or approximately \$236,000 per active permit holder. The sale of sockeye salmon made up approximately 45% of the total exvessel value followed by pink salmon (41%). The harvest of Chinook, coho, and chum salmon provided approximately \$770, \$8,100, and \$21,400 respectively, per active permit holder (Table 4).

Table 4.- Value, by species, and average value per active permit, in dollars, in the Chignik Management Area, 2007 to 2017.

Year	Chinook		Sockeye		Coho		Pink		Chum		(\$) Total Value	Number of Permits ^c	(\$) Value Per Permit
	Total ^a	Average ^b											
2007	26,176	476	4,154,210	75,531	195,754	3,559	1,034,322	18,806	162,089	2,947	5,572,550	55	101,319
2008	15,249	282	4,121,611	76,326	778,282	14,412	1,810,965	33,536	533,358	9,877	7,259,465	54	134,435
2009	30,714	558	7,058,058	128,328	220,823	4,015	800,523	14,555	520,791	9,469	8,630,909	55	156,926
2010	160,076	2,463	9,549,370	146,913	566,191	8,711	565,941	8,707	1,774,763	27,304	12,616,341	65	194,098
2011	57,524	899	21,469,153	335,456	278,391	4,350	1,040,264	16,254	919,586	14,369	23,764,918	64	371,327
2012	47,612	690	12,803,505	185,558	97,430	1,412	146,011	2,116	634,705	9,199	13,729,263	69	198,975
2013	37,620	495	21,946,587	288,771	86,892	1,143	867,978	11,421	384,458	5,059	23,323,535	76	306,889
2014	66,875	955	6,040,512	86,293	434,394	6,206	286,942	4,099	185,016	2,643	7,013,739	70	100,196
2015	74,403	1,048	6,600,110	92,959	101,967	1,436	940,236	13,243	164,225	2,313	7,880,941	71	110,999
2016	176,800	2,562	8,044,321	116,584	158,010	2,290	95,776	1,388	161,028	2,334	8,635,937	69	125,159
2017 ^d	51,612	770	7,176,807	107,117	545,654	8,144	6,566,005	98,000	1,438,881	21,476	15,778,960	67	235,507
Averages													
2007-16	69,305	1,043	10,178,744	153,272	291,813	4,753	758,896	12,412	544,002	8,551	11,842,760	65	180,032
2012-16	80,662	1,150	11,087,007	154,033	175,739	2,497	467,389	6,453	305,886	4,309	12,116,683	71	168,443

^a Total value of commercial catch in dollars, by species. Value does not include home pack or department test fishery.

^b Average value of commercial catch per permit in dollars, by species. Average value does not include home pack or department test fishery.

^c Includes the number of commercial permits that received income from the harvest. These figures do not include department test fishery harvests.

^d Values represent the initial price paid, and do not include any postseason adjustments by any processor. The average 2017 exvessel prices per pound were: Chinook - \$1.41, sockeye - \$1.31, coho - \$0.35 pink - \$0.26, chum - \$0.31.

Department Test Fishery

The department conducted a cost recovery test fishery and one run assessment test fishery in Chignik Lagoon in 2017. An estimated 7,087 sockeye salmon were harvested, which provided approximately \$22,250 that was used to offset the cost of vessel charters and operations at the Chignik River weir.

SUBSISTENCE

As of this writing subsistence harvest numbers for 2017 have not been finalized.

LITERATURE CITED

Schaberg, K. L., D. A. Tracy, M. B. Foster and M. Loewen. 2015. Review of salmon escapement goals in the Chignik Management Area, 2015. Alaska Department of Fish and Game, Fishery Manuscript Series No. 15-02, Anchorage.